FlyBy Math™ Alignment
Performance Standards
Mathematics

M5A. Algebra
Students will represent and investigate mathematical expressions algebraically by using variables.

M5A1. Students will represent and interpret the relationships between quantities algebraically.

Performance Standards	***FlyBy Math*™ Activities**
c. Determine that a formula will be reliable regardless of the type of number (whole numbers or decimal fractions) substituted for the variable.	--Use the distance-rate-time formula to predict and analyze aircraft conflicts.

M5D. Data Analysis
Students will gather, organize, and display data and interpret graphs.

M5D1. Students will analyze graphs.

Performance Standards	***FlyBy Math*™ Activities**
a. Analyze data presented in a graph.	--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
b. Compare and contrast multiple graphic representations (circle graphs, line graphs, bar graphs, etc.) for a single set of data and discuss the advantages/disadvantages of each.	--Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes. --Represent distance, speed, and time relationship for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system.

M5D2. Students will collect, organize, and display data using the most appropriate graph.

Performance Standards	***FlyBy Math*™ Activities**
	--Conduct a simulation of each airplane scenario. --Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

M5P. Process Skills

Students will apply mathematical concepts and skills in the context of authentic problems and will understand concepts rather than merely following a sequence of procedures. Students will use the process standards as a way of acquiring and using content knowledge.

M5P1. Using the appropriate technology, students will solve problems that arise in mathematics and in other contexts.

Performance Standards	*FlyBy Math*™ Activities
a. Solve non-routine word problems using the strategy of make it simpler as well as all strategies learned in previous grades.	--Use tables, graphs, and equations to solve aircraft conflict problems.
b. Solve single and multi-step routine word problems related to all appropriate fifth grade math standards.	--Use tables, graphs, and equations to solve aircraft conflict problems.

M5P2. Students will investigate, develop, and evaluate mathematical arguments.

Performance Standards	*FlyBy Math*™ Activities
	--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes. -- Compare predictions, calculations, and experimental evidence for several aircraft conflict problems.

M5P3. Students will use the language of mathematics to express ideas precisely.

Performance Standards	*FlyBy Math*™ Activities
	--Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system. --Predict outcomes and explain results of mathematical models and experiments.

M5P4. Students will understand how mathematical ideas interconnect and build on one another and apply mathematics in other content areas.

Performance Standards	*FlyBy Math*™ Activities
	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

M5P5. Students will create and use pictures, manipulatives, models, and symbols to organize, record, and communicate mathematical ideas.	
Performance Standards	***FlyBy Math™* Activities** --Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes. --Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system.